

l52_poset_1

(TMHPa6TWbEwUjXQsgjpK4N7H64yxaQeo2He)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v1_poset_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_poset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_poset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_poset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_poset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow (\forall X2. \forall X3. (g1_orders_2 X0 X1 = g1_orders_2 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge(m1_funct_2 X2 X0 X1))\Rightarrow(\forall X3.(m2_funct_2 X3 X0 X1 X2)\Rightarrow((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v1_orders_2 X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_poset_1 X0)\wedge(l1_orders_2 X0))))))\wedge((\neg v2_struct_0 X1)\wedge((v1_orders_2 X1)\wedge((v3_orders_2 X1)\wedge((v4_orders_2 X1)\wedge((v5_orders_2 X1)\wedge((v1_poset_1 X1)\wedge(l1_orders_2 X1))))))))\Rightarrow((\neg v2_struct_0 (k6_poset_1 X0 X1)\wedge((v1_orders_2 (k6_poset_1 X0 X1))\wedge((v3_orders_2 (k6_poset_1 X0 X1))\wedge((v4_orders_2 (k6_poset_1 X0 X1))\wedge((v5_orders_2 (k6_poset_1 X0 X1))\wedge(l1_orders_2 (k6_poset_1 X0 X1)))))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v1_orders_2 X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_poset_1 X0)\wedge(l1_orders_2 X0))))))\wedge((\neg v2_struct_0 X1)\wedge((v1_orders_2 X1)\wedge((v3_orders_2 X1)\wedge((v4_orders_2 X1)\wedge((v5_orders_2 X1)\wedge((v1_poset_1 X1)\wedge(l1_orders_2 X1))))))))\Rightarrow(m1_subset_1 (k5_poset_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k4_poset_1 X0 X1) (k4_poset_1 X0 X1)))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v1_orders_2 X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_poset_1 X0)\wedge(l1_orders_2 X0))))))\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v1_orders_2 X1)\wedge((v3_orders_2 X1)\wedge((v4_orders_2 X1)\wedge((v5_orders_2 X1)\wedge((v1_poset_1 X1)\wedge(l1_orders_2 X1))))))\Rightarrow(k6_poset_1 X0 X1 = g1_orders_2 (k4_poset_1 X0 X1) (k5_poset_1 X0 X1))) \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_orders_2 X0) \wedge ((v3_orders_2 \\
& X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_poset_1 X0) \wedge (\\
& l1_orders_2 X0)))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_orders_2 \\
& X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge \\
& ((v1_poset_1 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (k4_poset_1 X0 X1 = ReplSep \\
& (toset (\lambda X2 : \iota.m2_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 \\
& X1) (k9_funct_2 (u1_struct_0 X0) (u1_struct_0 X1))) (\lambda X2 : \\
& \iota.\exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) \wedge ((v2_poset_1 X3 X0 X1) \wedge (m1_subset_1 X3 (\\
& k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \wedge \\
& (r2_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X3 X2)) (\lambda X2 : \\
& \iota.X2)))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_orders_2 X0) \Rightarrow (X0 = g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0))) \tag{12}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_orders_2 X1) \wedge \\
& ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge ((v1_poset_1 \\
& X1) \wedge (l1_orders_2 X1)))))) \Rightarrow ((m1_subset_1 X0 (u1_struct_0 (k6_poset_1 \\
& X1 X1))) \Rightarrow ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (u1_struct_0 X1) (u1_struct_0 \\
& X1)) \wedge ((v2_poset_1 X0 X1 X1) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X1)))))))
\end{aligned}$$